

Land Management Plan

Introduction

The area of land referred to in this management plan is a strip of 30 acres adjoining Yorkley Lane comprising woodland, pasture and areas of scrub. The object of this management plan is to facilitate the management of the land in relation to the aims of the residential and agricultural practices proposed for the site, with a view to maintaining biodiversity and wildlife.

This document is divided into six parts. The first deals with issues of site planning and overall assessment of the land; the second part offers our environmental analysis of the land; the third part describes the principles of the management plan. The remaining three sections cover the particular functions of the three primary areas of land and their intended use.

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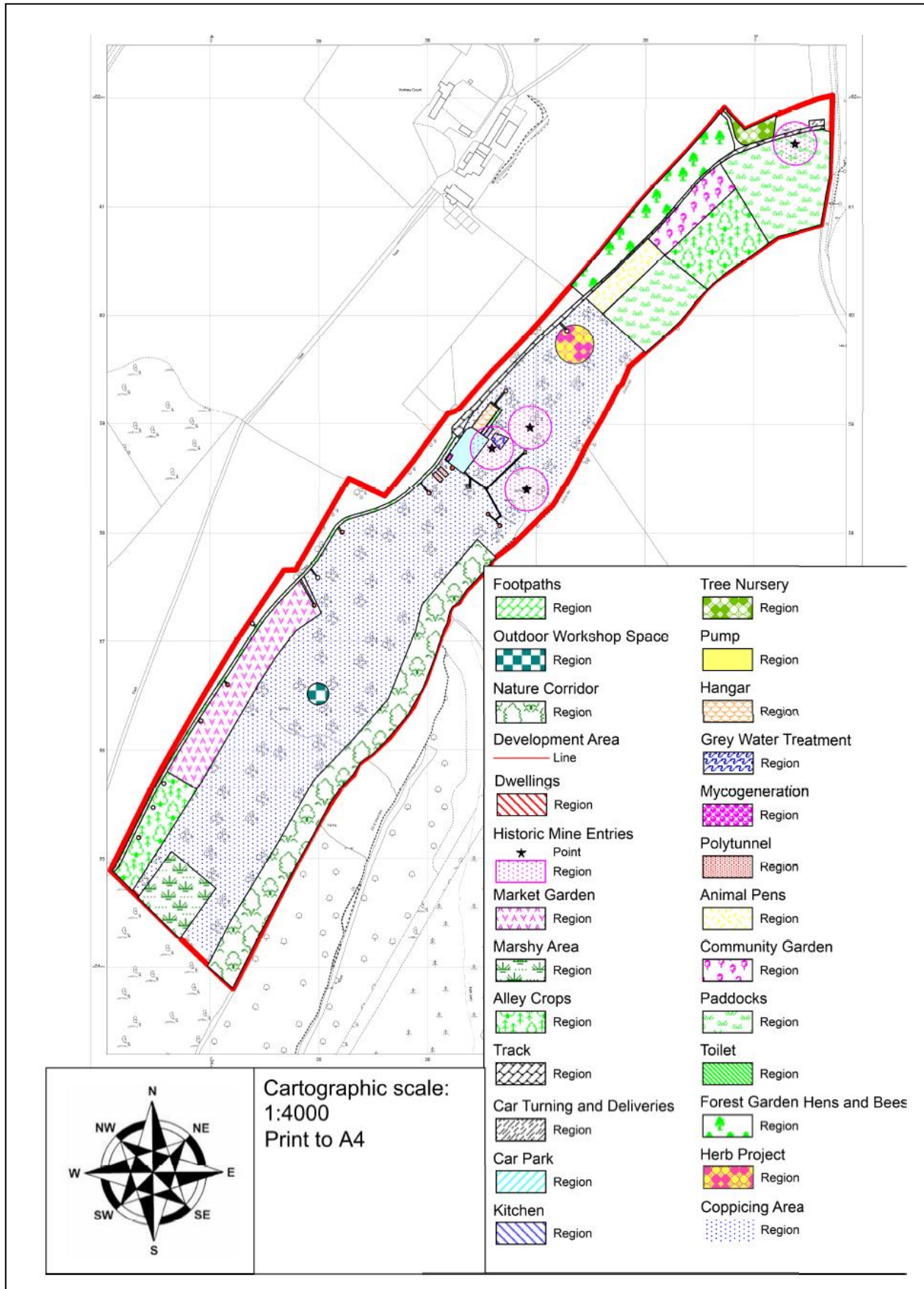
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1.1 - Site Map



1.2 - Historic use

In the 50's the land was subjected to a strip mining operation. The company eventually went bankrupt and were thus unable to meet their contractual obligations to recondition the landscape after their mining operations.

The MOD subsequently used the land for vehicle training purposes. This included building a large Nissen hut for the purposes of storing large earth moving equipment; a smaller Nissen hut for use as a site office; a mess hall and lavatories and engine room for a three phase generator.

Only the Nissen huts and the engine room remain, with the others falling into an advanced state of decay. Since this time the land has naturally regenerated into the woodland we see today and the 6 acres of pasture adjoining Yorkley Lane.

1.3 - Existing use

The land is currently being used both residentially and agriculturally by members of a community farm project. The occupants have brought a number of areas of previous bramble-filled scrub into productive use for the purposes of horticulture and market gardening. Around 6 acres is currently as a pasture meadow for pigs, horses and goats.

The woodland is being managed under a coppice rotation and for the purposes of holding woodland skills and craft workshops and demonstrations. The old MOD site office has been adapted for use as a kitchen and communal living space and the large Nissen hut serves as a workshop and wood storage. A number of low-impact dwellings have been erected mostly around the Nissen hut but also along the northern ridge of the woodland.

1.4 - Limiting Factors

The previous mining has disturbed the soil structure and efforts to cover over the old mine were undertaken without due care to properly replace the topsoil and subsoil. As such the soil condition is relatively poor in some parts of the site, especially around the Nissen huts. However, the scrubland and especially the northern embankment is suitable for soil reconditioning practices.

The scattered scrubland in the lower part of the site can become slightly waterlogged and marshy in winter, as the water slowly drains down to the stream which runs along the lower southern edge of the land from north to south.

1.5 - Location Consideration

The area of land in question is in a good location for the proposed low impact development.

The structures are not visible from any public roads or surrounding houses. The land has been neglected but is now regenerating woodland and pasture with a good level of biodiversity.

1.6 - Resources on and off Site

On site ash and hazel provide good building materials. Waste wood is also sourced off site from local sawmills. Large clay deposits are present in parts of the site. Food is grown through the various gardens on site, and also provided through regular work exchange with other farms.

1.7 - Access

From Yorkley Lane there is a track running to the Nissen huts. This did extend through to the gate on the southwest end of the land but this has now overgrown with gorse and bramble. Subsequently access to the lower woodland from the Nissen hut is now only possible on foot through a network of footpaths.

1.8 - Utilities

There are no mains utilities on site, but water is provided through the spring below the Nissen huts. Electricity is provided through solar panels and all heating requirements are met by wood that is predominantly sourced from the woodland.

1.9 - Community Land Use

There are two public footpaths crossing the land occasionally used by dog walkers and hikers. Involvement in the community garden is facilitated by the group by providing community growing days held on Sundays, and on other days by arrangement. The Wood Co-op use the land to process externally sourced wood for fuel. There have also been a variety of public events held on the land.

2 - Environmental Analysis

2.1 - Aspect

The land lies north to south with a south east facing embankment in the lower woodland.

2.2 - Climate

The valley the site is located in can maintain humidity and damp due to lack of air flow. These microclimatic conditions can produce frost pockets in the winter. Most of the site gets good sun and is well sheltered.

Temperature:

Month	J	F	M	A	M	J	J	A	S	O	N	D
Av. high	9	9	11	14	17	20	21	23	19	15	11	8
Av. low	-1	-2	0	1	2	6	9	10	6	2	-1	-1

Rainfall:

Month	J	F	M	A	M	J	J	A	S	O	N	D
mm	82	55	50	36	73	50	64	56	40	84	66	76
Days of rain	23	19	20	17	20	16	19	17	14	20	21	20

2.3 - Wind

Prevailing winds are from the southwest, following the Severn Valley. The topography of the valley the site is located within means the winds rarely come up the valley but rather pass across the top. There are frost pockets and humidity can hang in the valley, but combined with the aspect and topography this creates microclimates good for horticulture.

2.4 - Hydrology

Due to open cast works, a bowl exists that holds ground water in the woodlands which flows out in a number of natural springs. Surface water is present in most of the site close to the surface, from 5 cm to one meter down across the middle and lower sections of the site, the north edge of the site is free draining and so ground water is not as present. During the

summer water levels are lower but the springs do not dry up.

The spring to the south of the Nissen huts is next to a bore hole an estimated 5m deep. Rainfall patterns are consistent with averages for the area - see above table. The north edge of the site can be drought vulnerable. The springs have been tested and are free from any serious contamination.

2.5 - Soils and Geology

The geology consists of sandstone or mudstone with clay deposits. The topsoil is varied across the site, in the north it is generally sandy silt loam with some clay deposits, the woodland is sandy silt, the ridge areas have sandy silt, no loam, with some secondary clay deposits on top of the sandstone bedrock.

The soil varies greatly across the site from areas of silty sand, silty clay, clay, sandy silt and clay silt sand. There is some development of loam under the pasture and grass areas. Some soils are being developed into fertile and loamy areas using composting, green manures and good soil husbandry.

The topsoil is mostly shallow and becomes mineral matter very quickly, the loam in the front fields offer themselves to horticulture. Absorption is generally good due to the vegetation, but water is very close to the surface for 6 months of the year. Stability of soils is generally good.

2.6 - Topography

The strip of land follows a southwesterly direction, with the gradient of land declining to the southeast.

The valley runs through the middle of the site, northeast to southwest. A number of areas have south facing slopes.

2.7 - Flora

See the Habitat Survey (Appendix I) for a description and analysis of the density, health and vigour of plants species vegetation.

2.8 - Fauna

Rabbits and squirrels are common along the upper ridge in the southern section. Wild boar have been sighted at various times of the year. The scrub and woodland provide a large habitat for a diversity of bird species.

3 - Management Plan

3.1 - Overview

For the purpose of the management plan, the land has been divided into three sections - the top field, the area around the Nissen huts and the woodland. Each section is considered according to its existing and desired functions; the design elements based on those functions; and the subsequent methods and techniques of implementation. Where necessary specific areas are referred to by the key provided with the maps.

3.2 - Design Principles

The land management principles of this project are based on agroecology. This involves the application of ecological concepts to the design, management, study and evaluation of agricultural and land management techniques. Thus it offers a way to evaluate divergent ideologies and methods comparing and contrasting the efficacy of these practices in relation to the diversity of human and nonhuman communities that interact within a particular habitat. The design principles therefore offer a best practice guide for the continual study and evaluation of any agricultural land management practice.

The following five principles are provided for the design, management, study and evaluation of land management practices:

1. recycling of nutrients;
2. building of soil organic matter;
3. minimising losses from the system;
4. maximising biodiversity and genetic diversity;
5. enhancing biological interactions.

3.3 - Management Objectives

Maintain and enhance habitats and biodiversity

Managing the health of the woodlands through coppicing is an essential objective for the site. Provision for wild spaces and appreciation of existing habitats is recommended, in particular the recommendations of the Habitat Survey report should be followed regarding nesting seasons and the improvement of animal habitats.

Maintain landscape quality

Maintaining hedgerows and improving drainage and irrigation will be important for maintaining both the landscape and the productivity of the site.

Improve long-term soil fertility

Organic soil reconditioning practices will be essential throughout the site to maintain fertility levels. Maintenance of beneficial bacteria and fungi and nitrogen fixing shrubs such as gorse will be a priority.

Provide sustainable livelihoods

The land must be managed in a way that maximises the potential of the inhabitants to meet their needs and contribute to the well being of the local community. Design considerations must therefore take into account the creation of a diversity of agricultural output and the collaboration with supporting trades and small scale industry

4 - Area 1: Pasture



4.1 - Functions

Access: Area 1 contains the main access to the site via Yorkley Lane via the gate to the East and the track running along the top of the field down to Area 2. There is a small gravel area “Car Turning and Deliveries” where cars can pull in to turn around or make deliveries.

Animal husbandry: The occupants are already keeping pigs, chickens, goats and horses on the pasture. The top field is an existing meadow and can be enhanced to further support animal husbandry.

Horticulture: A vegetable garden is already established along the track in the middle of the top field. Conditions are favourable for the further development of horticultural practices and soil fertility in this area appears to be good.

Aesthetics: As the top field is the main public facing part of the land, aesthetic considerations should be taken into account to ensure a visually pleasing environment. This will be predominantly fruit trees and gardens.

4.2 - Design

Access: Access will be improved by moving the main gate back, allowing for greater visibility of the road and passing traffic.

Track and drainage: The track of aggregate and hardcore will be improved by the addition of more type-two aggregate and the drainage ditch that follows the southeastern edge of the area marked “Forest Garden” will be cleared to help preserve the track during wetter seasons.

Community garden: An enclosed community garden will provide annual crops of fruit, vegetables and flowers. It will be bordered with an earthwork embankment of soft fruits and nitrogen fixing herbaceous shrubs, adjoining the alley cropping systems below.

Alley cropping: The section of the field between the two paddocks will be divided into three using an alley cropping system. These will be three strips edged with fruit and nut trees like a small orchard, with ploughed rows in between for annual vegetables.

This system has the advantage of increased natural fertility and the narrow 'alleys' of cultivation mean that exposed soil is protected from erosion by the bank of trees and the deep root structure they provide. They also provide the advantage of attracting butterflies and particularly bees necessary for pollination.

These sections will be rotated with one alley remaining fallow for a period of 2 years during which time it will be planted with green manure crop. Also during this time it will be able to be grazed and fertilised by animals.

Forest garden: The strip following the west side of the track has a south facing slope and will be planted with fruit trees and shrubs, and a variety of perennial crops. Chickens and bees will also be kept in this forest garden.

Paddock: The two paddocks will provide ample grazing for 2 pigs, 2-3 horses and 4 goats. This will be managed through a mob grazing rotation.

Animal pens: Three animal pens will be located along the lower part of the track above the southern most paddock for housing livestock during the winter months and spring birthing period.

4.3 - Implementation

Alley cropping: The fruit tree and alder rows will be planted on slightly raised earthworks dug manually.

Forest garden: Brambles and bracken will be cleared gradually through a process of bracken bashing with a specially designed a horse drawn roller.

5 - Area 2: Residential Space



5.1 - Functions

Communal Living Space: Area 2 is the main hub for the residential space, with shared kitchen, washing facilities and toilet. It is also proposed that a number of small residential structures will be sited in the area.

Water: The main source of water on site is Spring 1, which is below the Nissen Huts.

Workshop: The large Nissen hut referred to as the “Hangar” currently provides the space for a shared workshop and tool repair space including a functioning forge, as well as a collection and storage point for firewood.

Horticultural Production: Preparation and planting for the horticultural enterprises is based in this area utilising polytunnels.

Parking: The hard standing outside the front of the Nissen hut serves as parking space for approximately 20 vehicles.

5.2 - Design

Gardens: A number of gardens will be present in cleared scrub throughout this area. The gardens will support a herb growing enterprise and production of food in general.

Pump station: The spring water is pumped to the kitchen by a small solar powered 12v pump, housed roughly 10m from the spring.

Greywater treatment: The waste water from the kitchen and wash rooms will be directed to a reed bed system for biological greywater treatment. This area is surrounded by fast growing willow.

Tree bog: The two-cubicle tree bog has a fast-growing willow coppice planted around the base of the structure.

Polytunnels: The two proposed polytunnels will serve the propagation requirements for the community and market gardens, tree nursery and herb growing enterprises.

Nursery: A tree nursery will be sited adjacent to the car park.

Timber production: Much of Area 2 will fall under the coppicing plan.

5.3 - Implementation

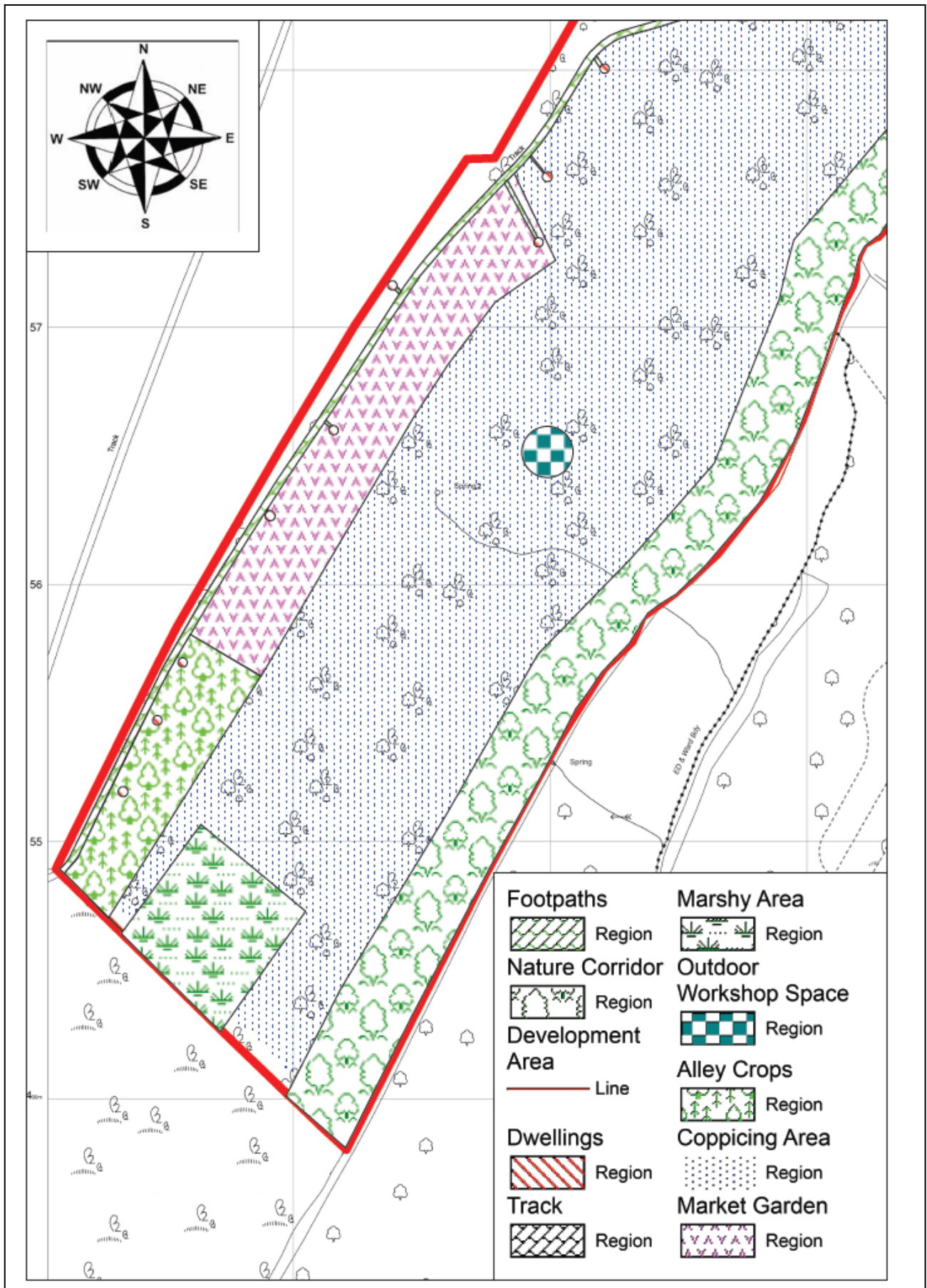
Reed bed system: The reed bed system requires small shallow gravel filled ponds. These will be dug and installed by hand with a qualified specialist.

Polytunnels: Some levelling work will be required for the polytunnels located at point 2I but this can be done by hand. There are no foundations for the structure, just steel pipes inserted into a solid base to support the framework.

Soil remediation: The contamination report for the site identified a small area where oils may have previously been spilled during the site's previous use. The affected area is behind the kitchen and the report identifies steps for on-site remediation of a 3 metre square patch which should be followed closely. See Appendix E for details.

Habitats: Any works done in the woodland or scrub in Area 2 should be undertaken with the provisions of the Habitat Survey report. See Appendix I.

6 - Area 3: Woodland



6.1 - Functions

Soft Fruit production: The area marked “Alley Cropping” has a southwest facing gentle gradient, which will facilitate the production of soft fruits.

Timber production: The majority of the timber resource will be harvested from this area of the land. Woodland based educational activities are also proposed for this area.

Nut Production: The woodland will also produce chestnut and hazelnuts from high yielding varieties in the “Alley Cropping” section.

Residential use: The intermittent tree and scrub areas of the southern embankment provides spaces for the proposed low-impact structures.

6.2 - Design

Soft fruit: Soft fruit trees will be planted in rows along the gradient of the embankment marked “Alley Cropping”.

Nature Corridor: The area marked “Nature Corridor” following the southeastern border of Area 3 will be left as a wild area to encourage more wildlife. Trees along this edge will be left to grow and coppicing will be restricted along this boundary area, as will clearing of brambles and scrub.

Water: Water will be pumped from the woodland Spring 2 to the “Market Garden” for irrigation in hotter months.

Access: Formerly an aggregate track ran the entire length of this embankment connecting it to the Nissen huts, however the lower sections of it have long since overgrown with shrubs and brambles, and the track has deteriorated to a point where vehicle access is not feasible. This and a number of other footpaths intersect Area 3.

Outdoor workshop space: An area in the centre of the woodland will be set aside to provide an open air outdoor workshop space.

Alley cropping: This section will be divided into north south alleys divided with rows of high yielding species of chestnut and hazel as well as fruit trees. The alleys will serve for the market garden enterprise.

Market Garden: A market garden is already producing vegetables in this section, with the intention of expanding to the area marked.

Mushroom production: Outdoor production of mushrooms will take place though out Area 3 by the installation of inoculated logs sheltered by elder.

6.3 - Implementation

Residential structures: Some of the proposed low impact structures will be sited in this section in clearings.

Woodland Space: A small semi-sheltered clearing in an ash coppice will provide the space for workshops on woodland crafts and traditional woodland management skills. An open air space cover can be provided through suspended canvas.

Alley Cropping: The alley cropping system will be implemented over several years guided by the initial planting of the chestnut and hazel stands.

Habitats: As with Area 2, any works done in the woodland or scrub in Area 3 should be undertaken with the provisions of the Habitat Survey report in mind. The marshy area identified as an important area of biodiversity in the Habitat Survey report will largely preserved with minimal interference, as the often swampy nature of the soil here would have limited use for agriculture.